

U.S. Patent Application No. 10/723,297  
Amendment dated July 13, 2005  
Reply to Office Action dated April 13, 2005

### REMARKS/ARGUMENTS

Reconsideration and continued examination of the above-identified application are respectfully requested.

The amendment to the claims further defines what the applicants regard as their invention. In particular, claim 1 is amended so that the starting material is a 2-aminobenzaldehyde. Claims 2 and 3 are amended to provide that the amine group of the aminobenzaldehyde in step a) of claim 1 is substituted with a hydroxyalkyl group and that the indazole formed in step b) is a 1-(hydroxyalkyl)indazole. (The recitation of "the amine group" in claim 2 has antecedent basis in the recitation of a 2-aminobenzaldehyde in claim 1, since a 2-aminobenzaldehyde inherently contains an amine group.) Claim 2 further provides that the 1-(hydroxyalkyl)indazole is further reacted to form a 1-(aminoalkyl)indazole. Claims 4 - 7 and 12 - 15 are canceled without prejudice or disclaimer. Claim 10 is amended to depend from claim 2 instead of from claim 1. Claim 11 is amended to provide that the organic acid solvent used with the catalyst is ethanol. Claim 16 is amended to provide that the method forms a 1-(hydroxyalkyl)indazole, which is further reacted in claim 17 to form a 1-(aminoalkyl)indazole. Full support for these amendments can be found throughout the present application including the claims as originally filed. For example, the starting compound for the method of the invention is described on page 5, lines 8 - 12 and pages 7 - 9 as being an aminobenzaldehyde, and a 2-aminobenzaldehyde is clearly shown in the formula on page 8, line 12 and in scheme I (compound 6) on page 21 and in the description of pages 7 - 9. The recitation in claims 2 and 3 that amine group of the aminobenzaldehyde is substituted with a hydroxyalkyl group and wherein the indazole formed in step b) of claim 1 is an 1-(aminoalkyl)indazole, as well as the recitation in claims 16 and 17 of a 2-(hydroxyalkyl)aminobenzaldehyde that is reacted to form a 1-(hydroxyalkyl)indazole, which is

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further reacted to form a 1-(aminoalkyl)indazole is clearly shown at page 7, line 23 to page 8, line 10. The recitation in claim 11 that the solvent used with the catalyst is ethanol is clearly supported at page 8, lines 8 - 10. Accordingly, no questions of new matter should arise and entry of this amendment is respectfully requested.

#### **Claims 30 and 31**

The Examiner stated in the Office Action of April 13, 2005 that claims 1 - 29 are pending, and the Examiner only mentioned claims 1 - 29 in the Office Action. Applicants request that the Examiner note that the application filed on November 26, 2003 included claims 30 and 31. See page 25 of the application. Accordingly, examination of all the pending claims including claims 30 - 31 is respectfully requested.

#### **Rejection of claims 1 - 29 under 35 U.S.C. § 101**

At page 2 of the Office Action, the Examiner rejected claims 1 - 29 under 35 U.S.C. § 101 on the alleged grounds that the claimed invention is not supported by an asserted utility or a well established utility. The Examiner alleged that the process of the invention has utility only for the specific named compounds. In particular, the Examiner alleged, in view of the claims being drawn to a method of making an indazole, that the invention lacks utility because the specification allegedly does not disclose the utility of every known indazole. For the following reasons, this rejection is respectfully traversed.

The present invention relates to a method of making indazoles. Claims 1 and 16 are generic claims directed to embodiments of the method. It is respectfully submitted that indazoles as a group have a clearly established and recognized utility as pharmaceutical agents, so that

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accordingly, there is an art-recognized utility to a process of making indazoles. Moreover, the specification at page 1, lines 15 - 16 clearly and explicitly provides a specific, credible utility for 1-(aminoalkyl)indazoles for treating CNS diseases. The Manual of Patent Examining Procedure (MPEP) at Section 2107.02(I) states that where an applicant has established utility for a species that falls within an identified genus of compounds, and presents a generic claim covering the genus, as a general matter, that claim should be treated as being sufficient under 35 U.S.C. § 101. Accordingly the position taken by the Examiner is totally and completely at odds with the U.S. Patent and Trademark Office's own guidelines and policies regarding the issue of utility. The Examiner has not provided any specific example of any indazole that lacks utility and has not provided even the slightest bit of evidence, other than his unsupported opinion, to support a prima facie case of lack of utility. Therefore, the rejection of claims 1 - 29 under 35 U.S.C. § 101 should be withdrawn.

**Rejection of claims 1 - 29 under 35 U.S.C. § 112, first paragraph-enablement**

At page 3 of the Office Action, claims 1 - 29 were rejected under 35 U.S.C. § 112, first paragraph. The Examiner alleged that a person skilled in the art would not know how to use the claimed invention, on the alleged grounds that the claimed invention is not supported by either an asserted utility or a well-established utility. For the following reasons, this rejection is respectfully traversed.

In particular, as discussed above, the specification not only relates to a class of compounds for which there is a well-established utility, but provides a specific credible utility with respect to compounds within the scope of the class of compounds. In particular, the specification at page 1, lines 15 - 16 clearly and explicitly provides a specific, credible utility for

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1-(aminoalkyl)indazoles for treating CNS diseases. Accordingly, for the same reasons given above with respect to the rejection for alleged lack of utility, a person skilled in the art would know how to use the claimed invention. Therefore, the rejection of claims 1 - 29 under 35 U.S.C. § 112, first paragraph, should be withdrawn.

**Rejection of claims 1 - 29 under 35 U.S.C. § 112, first paragraph-written description**

At page 3 of the Office Action, claims 1 - 29 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. The Examiner alleged that the claims contain subject matter that was not described in the specification so as to reasonably convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention. The Examiner alleged that the terms "indazole," "aromatic aldehyde," "reducing agent," "sulfonyl halide," "anhydride," "metal azide catalyst," "organic solvent," and "hydrogen source" are not defined in the specification so as to determine the structures of compounds that are included and/or excluded by the terms. For the following reasons, this rejection is respectfully traversed.

To satisfy the written description requirement, all that is required is that a patent specification describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. In the present application, the terms "indazole," "aromatic aldehyde," "reducing agent," "sulfonyl halide," "anhydride," "metal azide catalyst," "organic solvent," and "hydrogen source" are all used in the specification with their commonly accepted meanings, and it is respectfully submitted that these terms are conventional and known to persons skilled in the art. Accordingly, the Examiner has not established a *prima facie* case for lack of written description.

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Moreover, the case law cited by the Examiner is completely irrelevant to the issue of written description of the original claims in an application. The Examiner cited *Teleflex Inc. v. Ficosa North America Corp.*, 63 U.S.P.Q.2d 1374, 1381 (Fed. Cir. 2001) as stating that the specification must set forth any definition explicitly with reasonable clarity, precision and deliberateness. This case has absolutely nothing to do with the written description requirement of 35 U.S.C. § 112, first paragraph. Rather, the *Teleflex* case has to do with claim interpretation for infringement. The quotation is in the context of a statement by the court that a patentee can be his own lexicographer if he defines the specific terms with reasonable clarity, precision and deliberateness. This statement is completely irrelevant to the present application, since the inventors in the present application are not trying to be their own lexicographer, but rather have used the terms "indazole," "aromatic aldehyde," "reducing agent," "sulfonyl halide," "anhydride," "metal azide catalyst," "organic solvent," and "hydrogen source" as they would be commonly understood by persons skilled in the art. The Examiner also cited *Lockwood v. American Airlines Inc.* 41 U.S.P.Q.2d 1961 (Fed. Cir. 1997) as stating that an applicant must show possession of an invention by describing it with all the claimed limitations. This case has nothing to do with the present invention. Rather, *Lockwood* relates to a situation in which an inventor claimed priority in a later application to an earlier application in a chain of applications, but the later application contained a limitation that was completely absent in intervening applications. The court held that priority could not be claimed because each application in the chain must explicitly comply with the written description requirement with respect to the claims asserted in the later application. The issue in the present application, on the other hand, is whether the original claims of the application are supported by the written description. As discussed above, the claims do not contain any limitations that are not disclosed in the

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specification.

Moreover, the amended claims do not contain the term "aromatic aldehyde," and the term "anhydride" has been clarified as "sulfonic anhydride."

Accordingly, the claims of the present application clearly meet the written description requirement, and the rejection of claims 1 - 29 under 35 U.S.C. § 112, first paragraph, should be withdrawn.

**Rejection of claims 1 - 29 under 35 U.S.C. § 112, second paragraph**

At page 4 of the Office Action, claims 1 - 29 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly failing to point out and distinctly claim the subject matter that the applicant regards as the invention.

The Examiner alleged that claims 1 - 29 are written in functional language and therefore are broader than the enabling disclosure. The Examiner further alleged that the claims recite "reacting," or "nitrosating." The Examiner alleged that the claims must recite reagents, reaction times, pH, and reaction conditions that are applicable in the steps. The Examiner further alleged that Applicant may not claim all processes of "reacting" or "nitrosating" that may be applicable in the instant invention, but must claim only the processes of performing the "reacting" or "nitrosating" that embody the applicant's invention. The Examiner further alleged that under U.S. patent law, a process claim must recite how the process is performed and not what is done. The Examiner further alleged that the structure of the product, indazole, is derived from the aldehyde starting compound and that therefore, only a specific aldehyde having a phenyl ring with the appropriate specific substituents can be used in the claimed process, not any aromatic aldehyde. The Examiner alleged that for all known aldehydes, reducing agents, catalysts,

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hydrogen sources, anhydrides, metal azides or organic solvents to have the same utility is not believable. For the following reasons, the rejection is respectfully traversed.

In the first place, claim 1 is amended to be directed to a method comprising nitrosating a 2-aminobenzaldehyde to form a 2-nitrosaminobenzaldehyde, reacting the 2-nitrosaminobenzaldehyde with at least one reducing agent to form an indazole, and reacting the indazole with a sulfonyl halide or sulfonic anhydride to form a corresponding sulfonic ester. Claim 2 is amended to provide that the amine group of the starting 2-aminobenzaldehyde in claim 1 is substituted with a hydroxyalkyl group, so that a 1-(hydroxyalkyl)indazole is formed in step b) of claim 1. According to amended claim 2, the corresponding sulfonic ester is reacted with a metal azide to form a 1-(azidoalkyl)indazole, which is reacted with a hydrogen source and a catalyst to form a 1-(aminoalkyl) indazole. The reactions of claims 1 and 2 may be understood by referring to the reaction sequence with respect to compounds 6, 7, 8, 9 and 10 as shown in scheme I at page 21 of the specification by way of illustration, although the invention is clearly not limited to the particular compounds shown. Accordingly, a person skilled in the art can directly see how the product, an indazole, is derived from a 2-aminobenzaldehyde and how a 1-(hydroxyalkyl)indazole may be further reacted to form a 1-(aminoalkyl)indazole.

Moreover, the Examiner provides incorrect legal interpretations that are completely at odds with the U.S. Patent and Trademark Office's own guidelines and policies. As stated in MPEP Section 2173, the requirement of definiteness of claim language is to ensure that the scope of the claims is clear so that the public is informed of the boundaries of what constitutes infringement of the patent. The Examiner has not identified any aspect of the claims that would not be clear with respect to the boundaries of the claim. Moreover, MPEP Section 2173.05(g) clearly provides that there is nothing wrong with defining a claim with functional limitations. A

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functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. In the present claims, the terms "reacting" and "nitrosating" are used with a clear context of exactly what is reacted with what. For example, in claim 1, particularly as amended herein, step a) of nitrosating is very specific in terms of what is nitrosated, namely, a 2-aminobenzaldehyde, which is nitrosated to form a 2-nitrosaminobenzaldehyde. Likewise, steps that use the term "reacting" are very specific as to what is reacted with what. In claim 1, the step b) of reacting is very specific, that the 2-nitrosaminobenzaldehyde is reacted with a reducing agent to form an indazole. A person skilled in the art would clearly understand that step b) involves an interaction of the nitroso group with the adjacent aldehyde in a ring-closing reaction that forms an indazole. Likewise, in claim 1, step c) of reacting is very specific, that the indazole is reacted with a sulfonyl halide or sulfonic anhydride to form a corresponding sulfonic ester of the indazole formed in step b).

In claim 2, it is provided that the amine group of the 2-aminobenzaldehyde of claim 1 is substituted with a hydroxyalkyl group and step d) specifically provides that the corresponding sulfonic ester is reacted with a metal azide to form 1-(azidoalkyl)indazole. Step e) specifically provides that the 1-(azidoalkyl)indazole is reacted with a hydrogen source and a catalyst to yield 1-(aminoalkyl)indazole. Thus, a person skilled in the art would clearly understand that step (c) of claim 1 creates a sulfonic ester, that step d) produces 1-(azidoalkyl)indazole, and that in step e), the 1-(azidoalkyl)indazole reacts with a hydrogen source and a catalyst to form 1-(aminoalkyl)indazole. The reaction of claims 1 and 2 can be understood by referring to the reaction sequence with respect to compounds 8, 9 and 10 shown in scheme I at page 21, by way of illustration, although the invention of claims 1 and 2 is clearly not limited to the particular compounds shown.

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It is respectfully submitted that each of these steps would be clear to persons skilled in the art. The Examiner is in error in alleging that 35 U.S.C. 112, second paragraph, requires that the claims must recite reagents, reaction times, pH, and reaction conditions that are applicable in the steps, since these limitations are not necessary for a person skilled in the art to clearly understand the boundaries of the claimed invention. Moreover, based on the teachings throughout the specification and general reaction scheme given on page 21 of the specification, persons skilled in the art would clearly understand the meaning of aromatic aldehydes, reducing agents, catalysts, hydrogen sources, sulfonic anhydrides, metal azides and organic solvents used in the present invention.

Moreover, the case law cited by the Examiner is not relevant to the issue of the rejection under 35 U.S.C. § 112, second paragraph for alleged indefiniteness in the present application. The Examiner cited *Ex parte Fressola*, 27 U.S.P.Q.2d 1608 (Bd. Pat. App. & Int. 1993) as stating that a claim must stand alone to define the invention and that incorporation into the claims by reference to the specification or an external source is not permitted. This case has nothing to do with the issues of the present application. Rather, in *Fressola*, the claim at issue was an "omnibus" type claim that claimed a system for displaying 3-D images "as disclosed in the specification and drawings herein." The Board found that this claim did not satisfy U.S.C. § 112, second paragraph, because the claim itself did not define the invention and one skilled in the art would not understand the metes and bounds of the invention from the specification. In the present application, on the other hand, there is no such reference to the specification in the claims. The terms used in the claims and the reaction processes defined by the claims have clearly understood meanings, and therefore, the metes and bounds of the claims are clearly defined. The Examiner also cited *In re Zletz*, 13 U.S.P.Q.2d 1320 (Fed. Cir. 1989) as stating that

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it is essential for claims to be precise, clear, correct and unambiguous. As discussed above, the present claims already are precise, clear, correct and unambiguous.

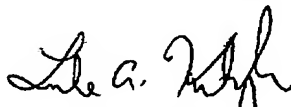
Accordingly, the rejection of claims 1 - 29 under 35 U.S.C. § 112, second paragraph, should be withdrawn.

### **CONCLUSION**

In view of the foregoing remarks, the applicant respectfully requests the reconsideration of this application and the timely allowance of the pending claims.

If there are any fees due in connection with the filing of this response, please charge the fees to Deposit Account No. 50-0925. If a fee is required for an extension of time under 37 C.F.R. §1.136 not accounted for above, such extension is requested and should also be charged to our Deposit Account.

Respectfully submitted,



Luke A. Kilyk  
Registration No. 33,251

Attorney Docket No. 2178 (3010-006-01)  
KILYK & BOWERSOX, P.L.L.C.  
53 A East Lee Street  
Warrenton, VA 20186  
Tel: (540) 428-1701  
Fax: (540) 428-1720